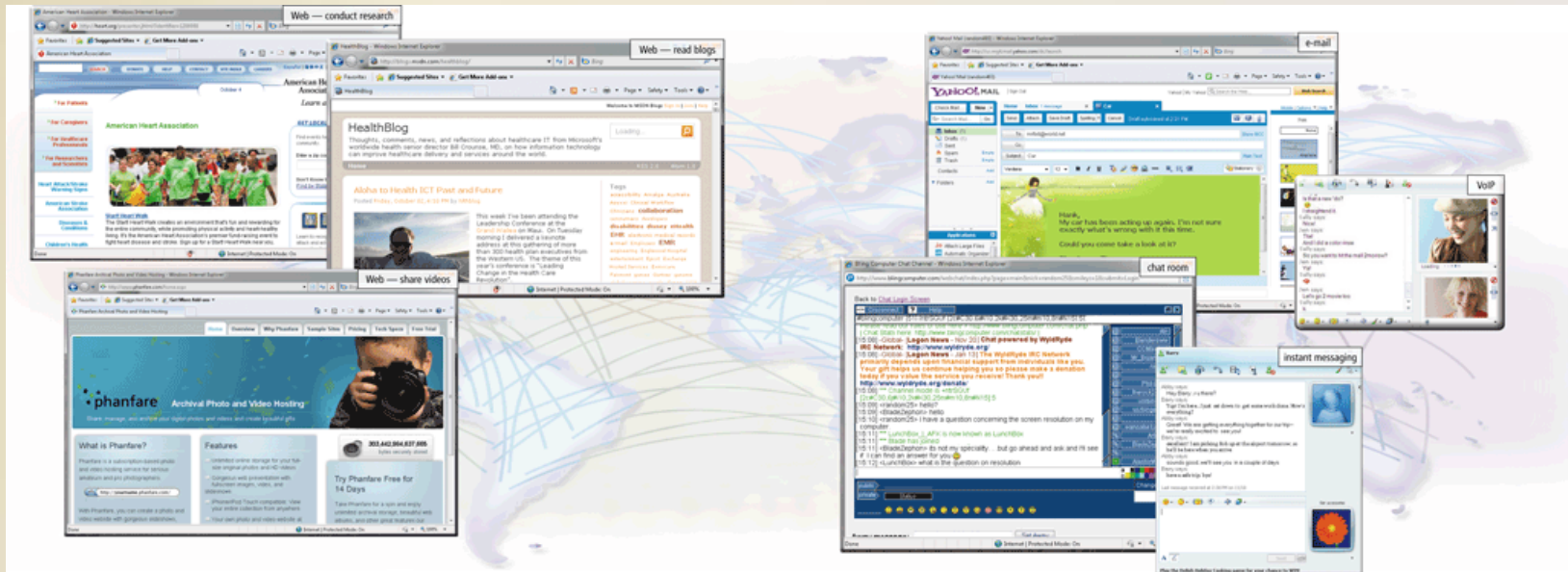**Chapter Two**

The Internet and World Wide Web

Discovering Computers 2011

Living in a Digital World

The Internet

- The **Internet** is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals

Evolution of the Internet

- The Internet originated as ARPANET in September 1969 and had two main goals:

Allow scientists at different physical locations to share information and work together	Function even if part of the network were disabled or destroyed by a disaster

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Evolution of the Internet

1986 NSF connects NSFnet to ARPANET and becomes known as the Internet

1969 ARPANET becomes functional

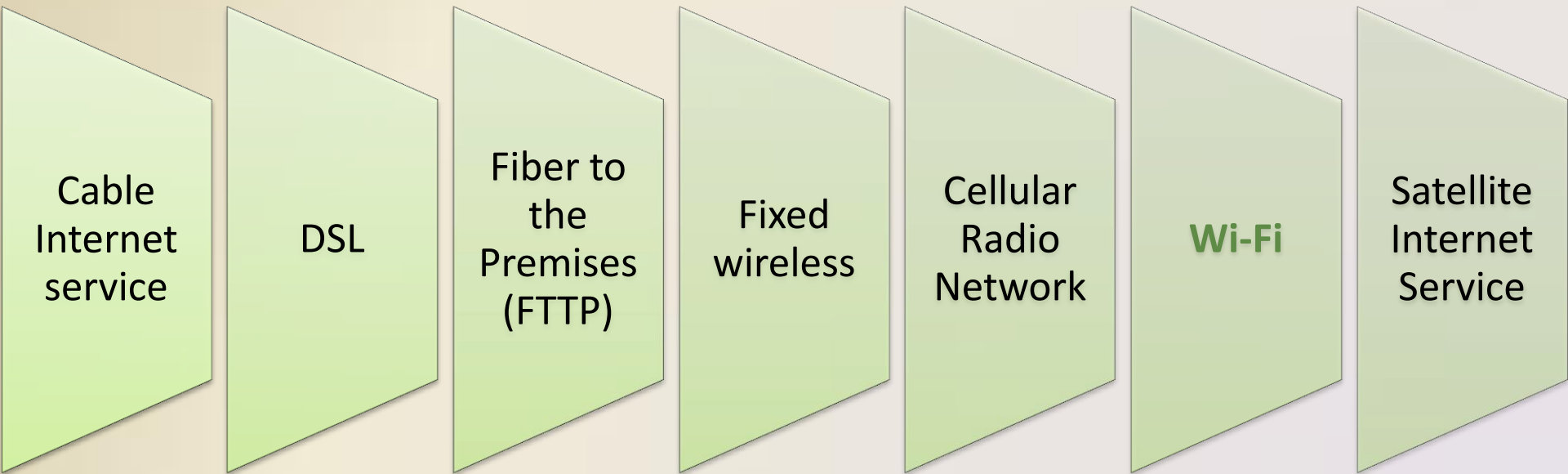**1996** Internet2 is founded

1984 ARPANET has more than 1,000 individual computers linked as hosts

1995 NSFNet terminates its network on the Internet and resumes status as research network

**Today** More than 550 million hosts connect to the Internet

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Evolution of the Internet

- Many home and small business users connect to the Internet via high-speed broadband Internet service

Cable Internet service	DSL	Fiber to the Premises (FTTP)	Fixed wireless	Cellular Radio Network	Wi-Fi	Satellite Internet Service

Evolution of the Internet

- An **access provider** is a business that provides individuals and organizations access to the Internet free or for a fee
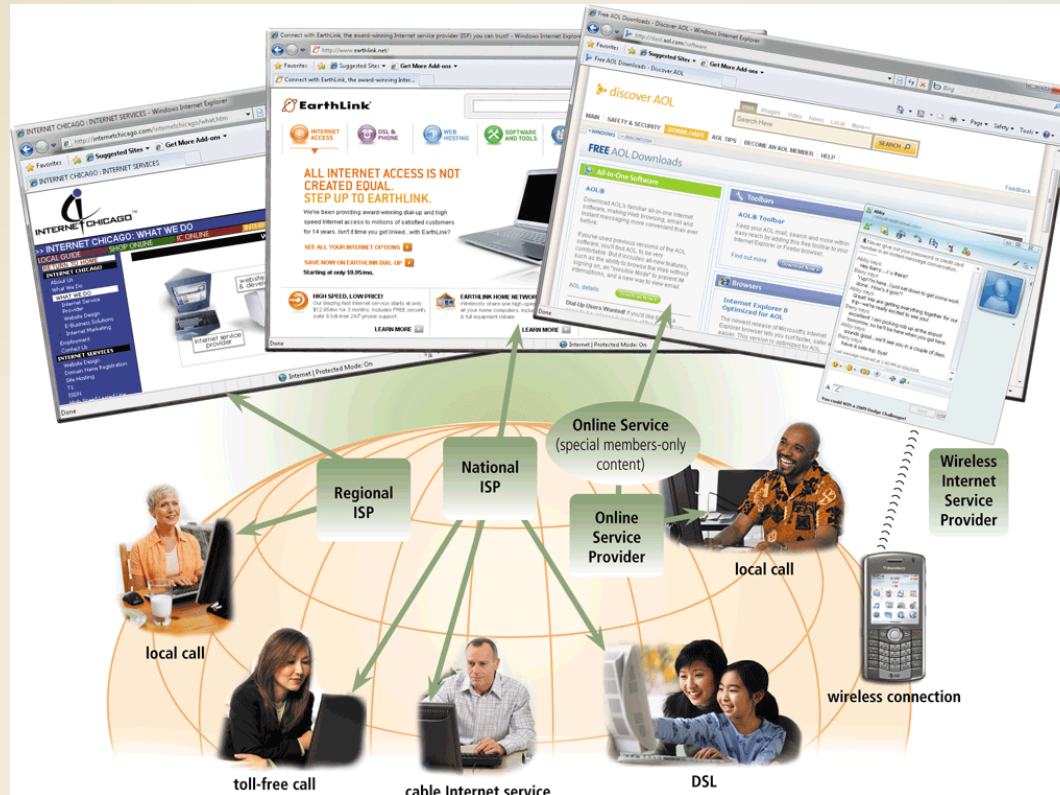
Evolution of the Internet

ISP (Internet service provider)

Regional ISPs provide Internet access to a specific geographical area

National ISPs provide Internet access in cities and towns nationwide

Online service provider (OSP)

Has many members-only features

Popular OSPs include AOL (America Online) and MSN (Microsoft Network)

Wireless Internet service provider (WISP)

Provides wireless Internet access to computers and mobile devices

May require a wireless modem

Click to view Web Link, click Chapter 2, Click Web Link from left navigation, then click Wireless Modems below Chapter 2

Evolution of the Internet

How a Home User's Data and Information Might Travel the Internet Using a Cable Modem Connection

Step 1 You initiate an action to request data or information from the Internet. For example, you request to display a Web page on your computer screen.

Step 2 A cable modem transfers the computer's digital signals to the cable television line in your house.
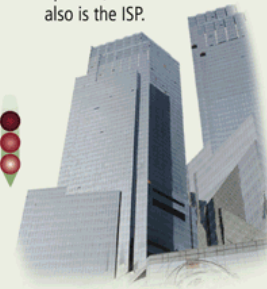
Step 3 Your request (digital signals) travels through cable television lines to a central cable system, which is shared by up to 500 homes in a neighborhood.

Step 4 The central cable system sends your request over high-speed fiber-optic lines to the cable operator, who often also is the ISP.

Step 5 The ISP routes your request through the Internet backbone to the destination server (in this example, the server that contains the requested Web site).

Step 6 The server retrieves the requested Web page and sends it back through the Internet backbone to your computer.
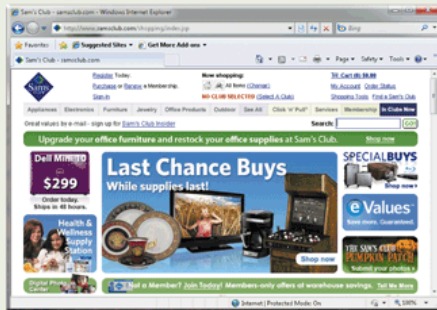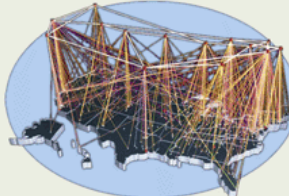
Evolution of the Internet

- An **IP address** is a number that uniquely identifies each computer or device connected to the Internet
- A **domain name** is the text version of an IP address
  - Top-level domain (TLD)
- A **DNS server** translates the domain name into its associated IP address

IP address ⟶ 72.14.207.99

Domain name ⟶ www.google.com

top-level domain ⟶

Evolution of the Internet

Examples of Generic Top-Level Domains

Generic TLD	Intended Purpose
aero	Aviation community members
biz	Businesses of all sizes
cat	Catalan cultural community
com	Commercial organizations, businesses, and companies
coop	Business cooperatives such as credit unions and rural electric co-ops
edu	Educational institutions
gov	Government agencies
info	Business organizations or individuals providing general information
jobs	Employment or human resource businesses
mil	Military organizations
mobi	Delivery and management of mobile Internet services
museum	Accredited museums
name	Individuals or families
net	Network providers or commercial companies
org	Nonprofit organizations
pro	Certified professionals such as doctors, lawyers, and accountants
tel	Internet communications
travel	Travel industry

The World Wide Web

- The **World Wide Web**, or **Web**, consists of a worldwide collection of electronic documents (**Web pages**)

- A **Web site** is a collection of related Web pages and associated items

- A **Web server** is a computer that delivers requested Web pages to your computer

- **Web 2.0** refers to Web sites that provide a means for users to interact
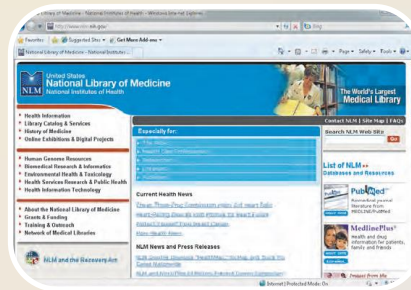
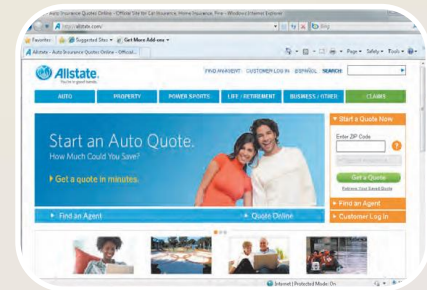# The World Wide Web

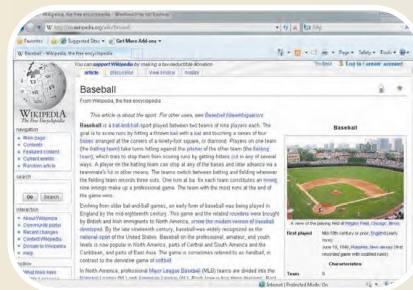- ## There are thirteen types of Web sites
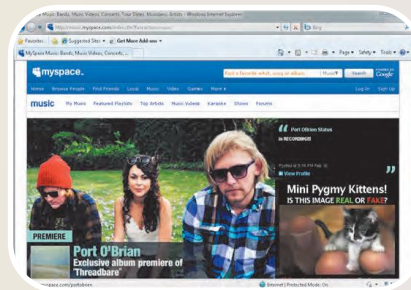

Portal

News

Informational

Business/Marketing
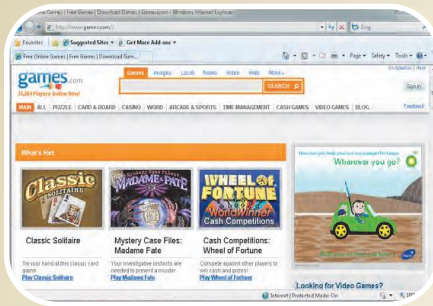

Blog

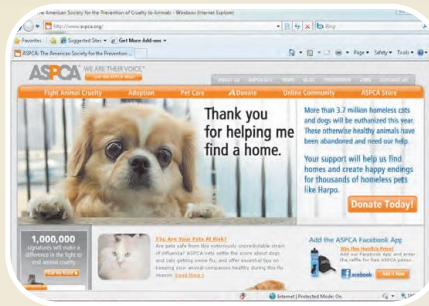

Wiki

Online Social Network
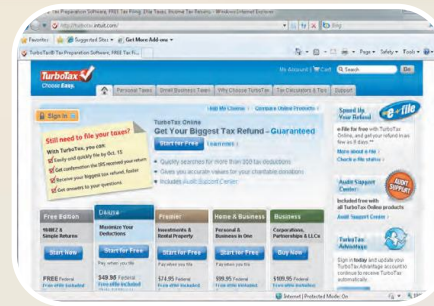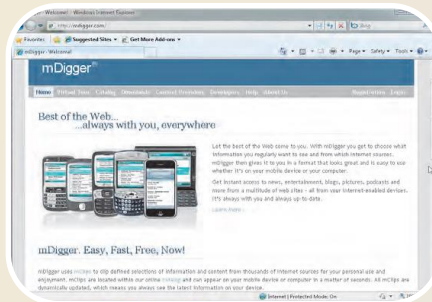

Educational

The World Wide Web

Entertainment

Advocacy

Web Application

Content Aggregator

Personal

The World Wide Web

- Information presented on the Web must be evaluated for accuracy
- No one oversees the content of Web pages

Criteria for Evaluating a Web Site's Content	
Evaluation Criteria	**Reliable Web Sites**
Affiliation	A reputable institution should support the Web site without bias in the information.
Audience	The Web site should be written at an appropriate level.
Authority	The Web site should list the author and the appropriate credentials.
Content	The Web site should be well organized and the links should work.
Currency	The information on the Web page should be current.
Design	The pages at the Web site should download quickly, be visually pleasing, and easy to navigate.
Objectivity	The Web site should contain little advertising and be free of preconceptions.

The World Wide Web

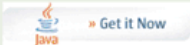- **Multimedia** refers to any application that combines text with:

Graphics

Animation

Audio

Video

Virtual Reality

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The World Wide Web

- A **plug-in** is a program that extends the capability of a Web browser

Popular Plug-Ins			
Plug-In Application		**Description**	**Web Address**
Acrobat Reader	Get ADOBE® READER®	View, navigate, and print Portable Document Format (PDF) files — documents formatted to look just as they look in print	adobe.com
Flash Player	Get ADOBE® FLASH® PLAYER	View dazzling graphics and animation, hear outstanding sound and music, display Web pages across an entire screen	adobe.com
Java	» Get it Now	Enable Web browser to run programs written in Java, which add interactivity to Web pages	java.com
QuickTime	Get QuickTime Free Download	View animation, music, audio, video, and VR panoramas and objects directly on a Web page	apple.com
RealPlayer	real RealPlayer DOWNLOAD	Listen to live and on-demand near-CD-quality audio and newscast-quality video, stream audio and video content for faster viewing, play MP3 files, create music CDs	real.com
Shockwave Player	Get ADOBE® SHOCKWAVE® PLAYER	Experience dynamic interactive multimedia, 3-D graphics, and streaming audio	adobe.com
Silverlight	Install Microsoft® Silverlight™	Experience high-definition video, high-resolution interactive multimedia, and streaming audio and video	microsoft.com
Windows Media Player	Windows MediaPlayer	Listen to live and on-demand audio, play or edit WMA and MP3 files, burn CDs, and watch DVD movies	microsoft.com

The World Wide Web

- **Web publishing** is the development and maintenance of Web pages

Plan a Web site	Analyze and design a Web site	Create a Web site	Deploy a Web site	Maintain a Web site

Click to view Web Link,
click Chapter 2, Click Web
Link from left navigation,
then click Web Page Authoring
Software below Chapter 2

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Netiquette

- **Netiquette** is the code of acceptable Internet behavior

NETIQUETTE — Golden Rule: Treat others as you would like them to treat you.

1. In e-mail, chat rooms, and newsgroups:
   - Keep messages brief. Use proper grammar, spelling, and punctuation.
   - Be careful when using sarcasm and humor, as it might be misinterpreted.
   - Be polite. Avoid offensive language.
   - Read the message before you send it.
   - Use meaningful subject lines.
   - Avoid sending or posting *flames,* which are abusive or insulting messages. Do not participate in *flame wars,* which are exchanges of flames.
   - Avoid sending spam, which is the Internet's version of junk mail. *Spam* is an unsolicited e-mail message or newsgroup posting sent to many recipients or newsgroups at once.
   - Do not use all capital letters, which is the equivalent of SHOUTING!
   - Use **emoticons** to express emotion. Popular emoticons include
     - :) Smile   :| Indifference   :o Surprised
     - :(Frown   :\ Undecided
   - Use abbreviations and acronyms for phrases:
     - btw   by the way
     - imho   in my humble opinion
     - fyi   for your information
     - ttfn   ta ta for now
     - fwiw   for what it's worth
     - tyvm   thank you very much
   - Clearly identify a *spoiler,* which is a message that reveals a solution to a game or ending to a movie or program.
2. Read the *FAQ* (frequently asked questions), if one exists. Many newsgroups and Web pages have an FAQ.
3. Do not assume material is accurate or up-to-date. Be forgiving of other's mistakes.
4. Never read someone's private e-mail.

Click to view Web Link, click Chapter 2, Click Web Link from left navigation, then click Cyberbullying below Chapter 2